



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,103	06/22/2001	Tetsuji Shono	P20770	4833

7055 7590 06/30/2005

GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER

VILLECCO, JOHN M

ART UNIT	PAPER NUMBER
----------	--------------

2612

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/886,103	Applicant(s) SHONO, TETSUJI	
	Examiner John M. Villecco	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 1 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed March 4, 2005 have been fully considered but they are not persuasive.

2. In order to expound on some of the applicants arguments regarding claims 1 and 12, a brief discussion of the issues raised by the applicant in their response with respect to the Goto reference will be presented. Regarding claims 1 and 12, applicant argues that the Goto reference shows a mirror that is inclined towards the back of the camera, as opposed to the claims which states that the half mirror is "inclined toward the photographing optical system". It appears that the applicant trying to make a distinction between the mirror being tilted in the opposite directions in the Utagawa and Goto references. However, the examiner believes that this limitation is sufficiently broad enough that a half-mirror tilted in either direction is "inclined toward to the photographing optical system". In other words, even though the bottom of the mirror is closer to the photographing optical system, it is still inclined toward the photographing optical system because there is an incline in the orientation of the mirror. Furthermore, if the camera were looked at from the top or upside down, the mirror would be inclined toward the photographing optical system.

3. Additionally, applicant argues that Utagawa teaches against a combination with Goto, since the half-mirror in Utagawa is a fixed mirror and not a moveable mirror. However, as pointed out by the applicant, Utagawa uses a fixed mirror so that successive images can be taken at a fast rate. See column 1, lines 27-31. However, as discussed in the rejection of claim 9 in the

Art Unit: 2612

previous office action, one of ordinary skill in the art would recognize that by having a permanent mirror is undesirable for normal photography since the amount of incoming light impinging on the image capturing device would be significantly reduced during photographing if the mirror were not moved, thus forming a lower quality image. Additionally, an underlying feature of the SLR (single lens reflex) camera is that the mirror moves out of the way during photographing, as in Goto, so that a high quality image is formed using all of the incoming light instead of only a portion. Thus, Goto was used in the rejection to show that during normal photography (not successive photography) it is well known to move the mirror out of the optical path so that all of the light is used in composing the image.

4. For the reasons stated above, the rejections from the previous office action will be repeated.

Specification

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. It is noted that the applicant has already amended the title. However, the newly amended title is still considered not sufficiently descriptive as to the specifics of the claims.

Claim Objections

6. Claim 1 is objected to because of the following informalities:

- Applicant has amended claim 1 to recite the limitation of the “focus adjuster being positioned under said light-path space”. It is clear from the specification

Art Unit: 2612

that the focus detector is located beneath the light path space, not the focus adjuster. See the specification on pages 9 and 10.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1, 2, 4, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Utagawa (U.S. Patent No. 5,784,656) in view of Goto (U.S. Patent No. 5,212,514).**

9. Regarding *claim 1*, Utagawa discloses a photographing optical system (100), a body (Fig. 3) to which the optical system is connected, an image sensor (170) arranged behind the lens (100), a half mirror (110) provided in the light path space that directs the light from the photographing optical system toward the image sensor (170) and in the direction of a focus detector (140) in a direction different from the optical axis, and a control circuit (160) and motor (161) which act as the focus adjuster. Additionally, Utagawa discloses that the half mirror is arranged in the light path space such that all of the light directed to the image sensor passes through the half mirror. See Figures 3 and 5, and column 10, line 5 to column 11, line 65. Utagawa discloses that the focus detector (140) is located under the light path space and the half mirror inclines toward the photographing optical system (100).

Art Unit: 2612

10. Although, Utagawa discloses that the focus detector has two image sensors for calculating a focus detection, which is the common way to perform phase difference focus detection, Utagawa fails to explicitly state that the focus detector (140) is a phase difference focus detector or that the mirror is temporarily moveable such that it does not interrupt the light path of the light directed from the photographing optical system. Goto, on the other hand, discloses that it is well known in the art to use phase difference photo detectors for determining the focus of an incoming image. See column 6, lines 26-32. It is well known in the art that phase difference focus detection is a popular and highly accurate way of performing focus detection. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the focus detector of Utagawa into a phase difference focus detector. Although Utagawa discloses that the half-mirror does not move, this is undesirable since all of the light entering the camera would not be used in composing the image during photographing. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to move the mirror in Utagawa, as is done in Goto, so that all of the incident light is captured during a photographing operation. See Figure 10 and column 7, lines 15-32 of Goto.

Furthermore, Utagawa fails to explicitly disclose that the image sensor includes a recording processor for recording the captured image in a recording medium. However, Official Notice is taken as to the fact that it is well known in the art to record images captured with an image sensor into an internal memory (recording medium). This feature allows for previously captured images to be retained for viewing or reproduction at a later time. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

Art Unit: 2612

include a recording medium in the device of Utagawa so that images recorded with the image sensor (170) can be viewed and reproduced at a later time.

11. As for *claim 2*, Utagawa discloses that the half mirror is larger than the image sensor. Additionally, Utagawa discloses that the half mirror is angled to the optical axis such that a projection area of the half mirror along the optical axis is larger than the light receiving area.

12. Regarding *claim 4*, Utagawa discloses the use of an optical viewfinder (150).

13. As for *claim 10*, Utagawa discloses the use of a shutter (131) in capturing the image. If used in a manner discussed in claim 9, the mirror would be moved and then the shutter opened before capturing an image.

14. *Claim 12* is considered substantively equivalent (if not more broad) than claim 1. Please see the discussion of claim 1 above.

15. **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Utagawa (U.S. Patent No. 5,784,656) in view of Goto (U.S. Patent No. 5,212,514) and further in view of Van Heyningen et al. (U.S. Patent No. 4,949,117).**

16. Regarding *claim 5*, as mentioned above in the discussion of claim 1, both Utagawa and Goto disclose all the limitations of the parent claim. However, neither of the aforementioned references discloses the use of a light metering processor for detecting the brightness of light using the subject image. However, Van Heyningen discloses that it is well known in the art to use the image signal from an image sensor to perform light metering for exposure control. See column 3, lines 49-54. Therefore, it would have been obvious to one of ordinary skill in the art

Art Unit: 2612

at the time the invention was made to use the image signal of Utagawa in a light metering operation in order to perform exposure control so that proper exposure is attained.

17. **Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Utagawa (U.S. Patent No. 5,784,656) in view of Goto (U.S. Patent No. 5,212,514) and further in view of Hirasawa (U.S. Patent No. 6,091,450).**

18. Regarding *claim 6*, as mentioned above in the discussion of claim 1, both Utagawa and Goto disclose all the limitations of the parent claim. However, neither of the aforementioned references discloses the use of a moving image display for displaying the images captured by the image sensor. Hirasawa, on the other hand, discloses that it is well known in the art to use a display on for displaying images captured by the images sensor. More specifically, Kubo discloses a display (115) for displaying a preview image before photographing. See column 5, line 50 to column 6, line 6. The display selecting circuit (120) serves as the displaying processor. By providing a display for previewing images before photographing the user is capable of confirming how the image is going to look before photographing. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a display to preview images before photographing so that a user is aid in composing the pictures.

19. With regard to *claim 7*, Hirasawa also discloses an eyepiece lens (109) for magnifying the image from an electronic viewfinder (107) that is embedded in the camera body. The lens (109) is located behind the electronic viewfinder so that a user may view the image outside of the body.

Art Unit: 2612

20. As for *claim 8*, as shown in Figure 6 of Utagawa, an electronic viewfinder is located on the backside of the camera body.

21. **Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Utagawa (U.S. Patent No. 5,784,656) in view of Goto (U.S. Patent No. 5,212,514) and further in view of Konno et al (U.S. Patent No. 6,157,781).**

22. Regarding *claim 11*, as mentioned above in the discussion of claim 1, both Utagawa and Goto disclose all of the limitations of the parent claim. However, neither of the aforementioned references discloses that the photographic optical system is interchangeable with film cameras. Konno, on the other hand, discloses that it is well known in the art to make lenses compatible with film cameras or digital/electronic cameras. More specifically, Konno discloses in the prior art that it has been known in the art to exchange lenses between film and digital cameras. See column 1, lines 26-42. This feature allows for compatibility between different imaging devices. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the lens of Utagawa interchangeable and further to make it interchangeable with lenses from a film camera so that compatibility is enhanced.

Allowable Subject Matter

23. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2612

Regarding *claim 13*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest that the focus adjuster includes a focusing lens, and the recording processor controls the focus adjuster to temporarily shift the focusing lens along the optical axis by the optical path length of the half mirror while the image sensor is exposed.

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

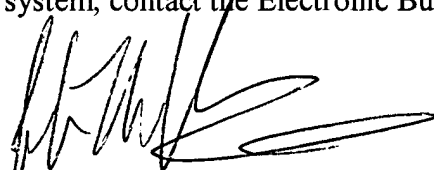
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (571) 272-7319. The examiner can normally be reached on Monday-Friday.


Art Unit: 2612

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John M. Villecco
June 21, 2005



WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600